

## Software Engineering Fundamentals - Tutorial

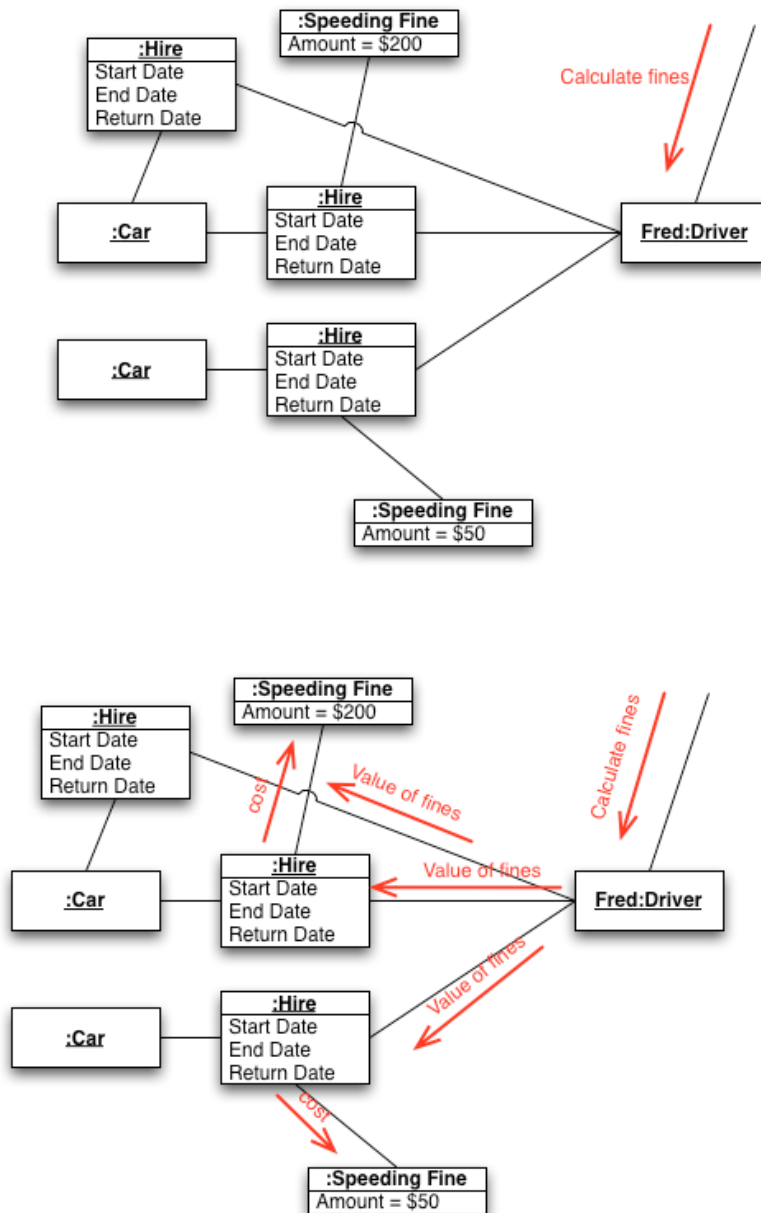
### Behaviour - Interactions

Q1

Hire car

a)

Annotate the following object diagram with messages you would need to determine the total value of fines incurred by Fred (assume the first message send is sent to Fred).

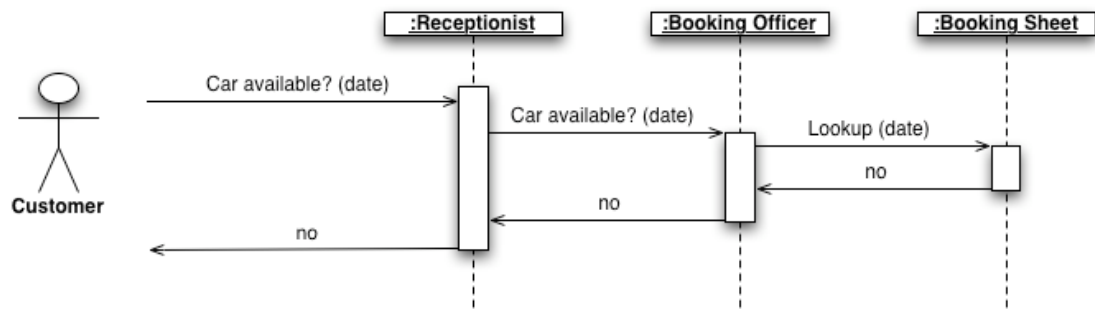


b)

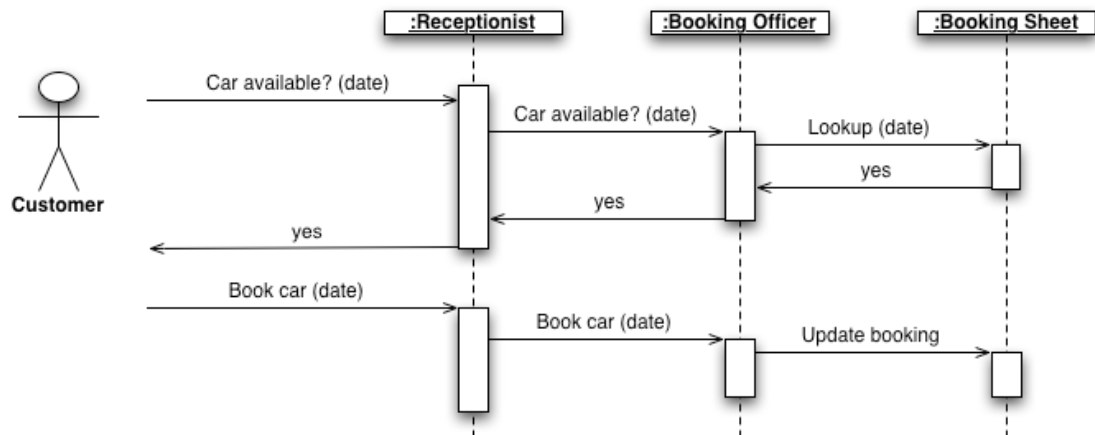
A customer rings a hire car company requesting a car to be hired for the weekend. The receptionist who takes the call asks the bookings officer if there are any spare cars for the specified date.

She looks up her booking sheet and finds there are none. The message is passed back to the customer who hangs up.

Draw an interaction diagram for this scenario.



c)  
Modify this diagram for the scenario where a car is available, and the customer books it.

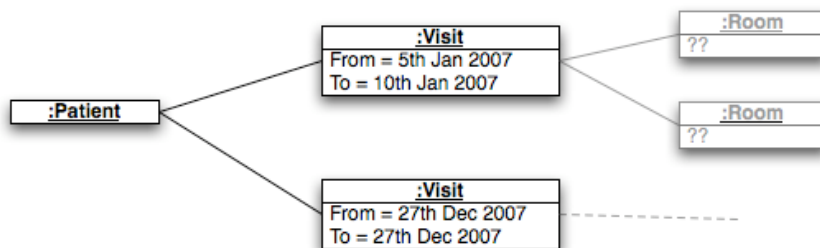


Note that this is for a paper based system - we don't create a new "booking object" (although notionally we do when we write a new entry into the booking sheet).

## Q2 Hospital

Draw an object diagram for the following scenario...

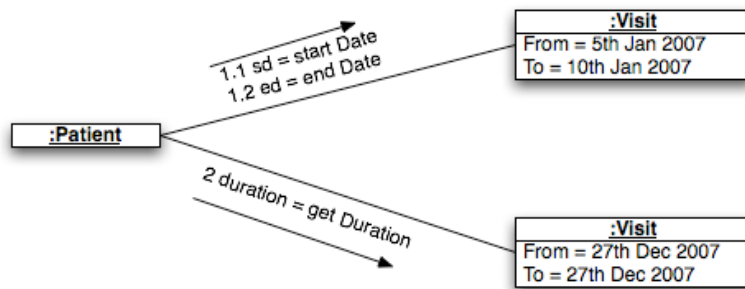
A patient has been admitted to hospital on two separate occasions.



This is an interesting question because you can see that the object diagram is very small - you only need to focus on those parts that are of interest to you. If there are mandatory associations coming off one of the objects you could indicate this in any way you like (shown here in a lighter colour, or with a dashed lines (which probably mean something else in UML!)).

The actual solution depends on the class diagram.

Annotate your object diagram with messages that could determine how many days the person has been in hospital in total.



I have shown two solutions here, either is acceptable.